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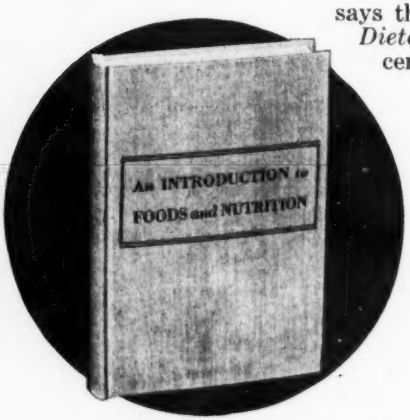

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Vol. XIV MARCH, 1944 No. 3

NATIONAL WARTIME NUTRITION PROGRAM

M. L. WILSON, *Chief*
Nutrition Programs Branch, Office of Distribution, War Food Administration

When we see war zone pictures of half-starved children we are sick at heart over the cruelty of war which brings such suffering to children. But we do not always, even in normal times, turn seeing eyes upon the children on our own streets and in our schools. Doctors tell us that many of these children are suffering from incipient malnutrition, which will bring in its wake multiple ills to plague them not only now but in their adult life.

Too, mental health, in part, follows physical health. Now and after the war is over we have great need of a Nation which is mentally and physically strong. Therefore, we must bend every effort towards building abundant health and vitality through the constant practice of good nutrition. This is a challenge. To meet this challenge, all official and voluntary agencies, whose work deals with nutrition, must intensify and extend their efforts to make people everywhere conscious of the importance of practicing good nutrition to build sound health.

In wartime, the health of the Nation's children is of supreme importance. The problem of maintaining and improving their health and well-being is the concern of the many agencies and interested individuals. However, we cannot "divide up" the child into parts with which the different agencies can deal. We must treat him "as a whole." In order to do this, the agencies must coordinate their efforts—must work together for the benefit of the whole child.

For many years, various Government and voluntary agencies have worked on various phases of the national nutrition problem. In May, 1941, President Roosevelt, recognizing the sound work that had been done voluntarily by groups and agencies, and understanding the need or a coordinated effort, called a National Nutrition Conference for Defense. Out of this conference grew the National Nutrition Program.

The broad objective of the National Nutrition Program, as stated in the recommendations of the National Nutrition Conference, is to improve the health of the people "by the conquest of hunger—not only the obvious hunger man has always known, but the hidden hunger revealed by the modern knowledge of nutrition."

One of the first cooperative efforts of the National Nutrition Program was to encourage the voluntary enrichment of white flour by the milling industry—according to the recommendations of the National Research Council. Later, in order to further spread the advantages of enrichment, the War Food Administrator issued an order requiring that all pan white bread be enriched. These steps made it possible to put into action a part of the newer knowledge of nutrition, and thus help combat hidden hunger on a wide scale, without having to wait until everybody could be taught to apply this knowledge. Numerous government and voluntary agencies have supported and encouraged the use of enriched flour and bread as a part of a program for improving the nutritional status.

There are 24 official agencies[1] represented on the Nutrition Coordinating Committee approaching the problem from different angles and dealing with different phases of nutrition work. All aspects of the problem must be solved. The participating agencies have recognized that it can be solved much more quickly and efficiently if all agencies coordinate their efforts—if they work together to reach the common goal. The work of each agency contributes to the success of all agencies in developing effective programs to reach the people. The state and local nutrition committees provide the means for group approach to community programs designed to reach the public as a whole.

We are still refining, intensifying, and building up this coordination procedure. The Federal agencies have, besides the coordinating committee, a planning group who have field representatives working with their own particular groups in the States and in local communities. The Nutrition Programs Branch maintains direct contact with the State nutrition committees in the development of cooperative programs. The objective is to encourage people to learn to utilize available foods to the best nutritional advantage. The coordinated program is one of a loose federated structure in which the Federal Government, the State agencies, and the local groups all participate.

Better nutrition of the entire population will lead us far along the road to better health. No one doubts that improvement of the health of the Nation will pay dividends in actual dollars and cents.

It will also pay dividends in increased well-being and happiness.

[1]Agencies represented on the Nutrition Coordinating Committee are:

Agricultural Research Administration
American Red Cross
Bureau of Agricultural Economics
Bureau of Dairy Industry
Bureau of Foreign and Domestic Commerce
Bureau of Human Nutrition and Home Economics
Bureau of Labor Statistics
Bureau of Public Assistance
Children's Bureau
Extension Service
Farm Security Administration
Federal Works Agency (War Public Services)
Fish and Wildlife Service
Food and Drug Administration
Foreign Economic Administration
Navy Department (Medical Corps)
Office of Civilian Defense
Office of Distribution, War Food Administration
Office of Education
Office of Experiment Stations
Office of Indian Affairs
Office of Price Administration
U. S. Public Health Service
War Department (Sanitary Corps)

* * * * *

MALNUTRITION, A MAJOR PUBLIC HEALTH PROBLEM

By THOMAS PARRAN
Surgeon General, U. S. Public Health Service

Public health officials now face the fact that malnutrition is a major public health problem. We know that it is widespread and serious. Every study, by whatever means conducted, shows this to be the case. Like an iceberg, most malnutrition, and the most dangerous part, is hidden. The very fact that it is hidden makes it even more dangerous. Our morbidity and mortality tables do not reflect the drain on our national health economy caused by malnutrition.

Agriculture is making every effort to produce an adequate supply of the foods which provide essential nutrients. Organized education is stimulating in the child a desire to eat the foods he needs for growth and health. Organized public health must seek to discover where malnutrition exists, must learn how much malnutrition there is, and must determine what types of malnutrition are affecting our people.

Avoiding malnutrition is not enough. In our efforts to attain better health, we must not only seek to prevent disease—we must also make every effort to improve what is now accepted as average health. Good nutrition is based upon the development of good food habits which are practiced day after day and year after year. Because nutrition is intimately related to numerous other factors affecting the health of the child, it cannot be dealt with in an isolated way.

We have mobilized our forces to take the *offensive*. Now agriculture, education, public health, and the family physician must fight side by side on a common front.

* * * * *

CAN HEALTH DEPARTMENTS GET THE FACTS?

By WALTER WILKINS, *Surgeon (R)*
*U. S. Public Health Service**

Who is malnourished? How many of our school children are suffering from malnutrition? Which ones? Why? How serious is this malnutrition? What kind is it? Every person who is interested in the health of a group of children would like to have such information about them.

What do we mean by malnutrition anyway? When is a child malnourished? Is it only when he is actually starving, is it when he fails to reach an optimal nutritional state, or is it somewhere between these two extremes? Such a question is not entirely impractical since, as yet, we have no commonly accepted yardstick for measuring nutritional status. For this reason we hear widely divergent statements as to the prevalence of malnutrition among school children.

If we use the starvation standard, we can say that we have little or no malnutrition among the school population. If we are not satisfied with anything less than the best, and feel that anything below optimum nutrition is malnutrition, then we must admit that few of our school children could measure up to this standard. Undoubtedly, we will find that we have all levels of nutritional status represented in our school population.

Lack of facts concerning the types, extent, severity, and distribution of malnutrition leaves a serious gap in our knowledge of the nature of the problem. In working with any group of children, we must be armed with such facts before we can make an effective attack on their nutrition problems.

The community looks to the health department for collecting, correlating, studying, interpreting, and dispensing information concerning the kind, extent, severity, and prevalence of communicable diseases. Where gaps have existed, public health has often developed its own techniques. Could health departments follow this same pattern in dealing with nutrition problems?

The science of nutrition is relatively new. Procedures for nutritional diagnosis have developed slowly and few of them have been adapted for use with large groups. The term malnutrition includes a group of diseases with as many manifestations as there are combinations of deficiencies of calories, protein, minerals, and the various vitamins. There is no one test upon which we can de-

*Detailed to the War Food Administration.

pend for complete nutritional appraisal. It seems reasonable that if appraisal techniques for large groups are developed, public health will have to develop them.

Practically all medical diagnostic procedures for nutritional appraisal fall within the following categories:

1. History
2. Physical examination
3. Laboratory procedures.
4. Diet records
5. Therapeutic tests.

We can expect, within the scope of these approaches, to develop or adapt methods suitable for use by health departments in working with large groups, for example, in the schools. But from which of them are we most likely to develop such methods?

Let us consider a few of the possibilities.

1. *History*—If any history is taken and recorded on a school health card, could it include questions concerning the *current* condition of the child, as well as a record of his inoculations and communicable diseases? Could it be concerned with factors which might be remediable at present? Could it be made more current and dynamic and less perfunctory and static?

In the absence of individual histories, certain information may be obtained on a group basis, especially where the individuals of the group have many problems in common. Such information is particularly valuable where remedial measures will be chiefly educational in nature.

2. *Physical examination*—If a physical examination is made, could it include a brief search for signs suggesting or indicating malnutrition; for example, appearance of chronic fatigue, pallor, rough skin, bad posture, spongy bleeding gums, red tongue, crusty eyelids, photophobia, sores at angles of mouth?

3. *Laboratory procedures*—At present few health departments are equipped or staffed to carry out laboratory procedures for nutrition evaluation. However, there is one simple test, the value of which has often been overlooked. It is the hemoglobin determination. The few mass studies of hemoglobin levels made among school children, in various sections of the country, have indicated that anemia among these children is very common.

At what hemoglobin level do we consider a child anemic? This question is often asked. In answer we might say that any hemoglobin level below the physiological optimum warrants attention. If 14 to 16 grams of hemoglobin per 100 cc. of blood is

optimal, why set as a standard a purely arbitrary level below this range?

In areas where hookworm, malaria, or other anemia-producing diseases are endemic, these cannot be ignored. However, a child can have anemia-producing diseases superimposed on a state of chronic malnutrition.

4. *Diet Records*—Although diet records yield only circumstantial evidence, they can be of great value in nutritional appraisal of groups. In many classes, the pupils keep records of all food eaten for limited periods, usually about a week. Shorter periods—one, two, or three days—give a less accurate picture of the food pattern of the individual child, but a large number of such brief records, when analyzed and compiled, give a fair picture of the food pattern of the group for the season of the year during which the records are kept. Here is a procedure which lends itself remarkably well to work with school children. Many feel that this is an excellent educational experience as well as a helpful fact-finding device.

5. *Therapeutic tests*—Therapeutic tests are among the most reliable tests available for the differential diagnosis of specific nutritional deficiencies. Since a number of nutrients are now available in pure form or as concentrates, therapeutic tests are taking on greater practical significance. Such tests may have different degrees of specificity. For example: If a number of children are found to have spongy bleeding gums, one differential diagnostic procedure would be to provide half of them with pure ascorbic acid over a period of a few days as a therapeutic test, the other half serving as controls. A less specific test would be to give the experimental group each day a generous amount of citrus fruit juice or some other food equally rich in Vitamin C. When any food is used in therapeutic tests, the results merely demonstrates the effectiveness or ineffectiveness of that particular food.

It would seem that the therapeutic test could be used much more widely as a fact-finding procedure. In doing therapeutic tests on school children, it is important that the purpose of the procedure be clearly understood by everyone concerned. It should be recognized as a part of a diagnostic procedure and not as therapy. Any facts brought to light by such tests can serve as guides in developing preventive and corrective plans which are educationally sound.

As incomplete as the procedures suggested above may be, they at least serve as a starting point for the development of more sat-

isfactory and comprehensive plans for nutrition appraisal by health departments. Facts gained by such procedures are basic to any rational nutrition program in much the same way that diagnosis is basic to treatment.

We must look to agriculture for an adequate supply of the foods which provide essential nutrients. We must look to organized education to help stimulate in the child a desire to do those things necessary for good nutrition and glowing health. Only the health department or the school health service can get the basic facts about the health status of large groups of school children as affected by the food they eat. We must look to them to collect, correlate, study, and interpret data, and to furnish information concerning the types, extent, severity, and distribution of malnutrition. Then parents, teachers, doctors, dentists, nurses, nutritionists, agricultural workers, and others can attack the various aspects of the nutrition problem much more effectively, with far larger forces, and on a much wider front.

* * * * *

THE CHILDREN'S BUREAU AND SCHOOL NUTRITION

KATHARINE F. LENROOT

Chief, Children's Bureau, U. S. Department of Labor

The concern of the Children's Bureau with nutrition is as old as its interest in child health in general. The nutritional work of the Children's Bureau has grown and shifted its emphasis to keep pace with advancing scientific knowledge, improvement of methods, and the creation of agencies equipped to deal with specific aspects of nutrition.

At first, nutritionists were identified with the Bureau's child-health work only in connection with special projects, such as the studies of the nutritional status of children in relation to their health that were carried on by Dr. Lydia Roberts and pediatricians in rural areas of Kentucky and an industrial city (Gary, Indiana). Since 1935, when the Congress entrusted the Bureau with the administration of health services to mothers and children under the Social Security Act, a nutrition unit has been set up in the Bureau, and the State health agencies receiving Federal aid have been encouraged to make provision for nutrition consultation. The number of State and Territorial health agencies that employ nutritionists has increased from three to 42 since Federal grants have been available. Another group of special consultants who as-

sist local physicians, nurses, and teachers with school nutrition problems consists of health educators, for whose salaries Federal maternal and child-health funds are being used in at least 24 States. Public health nursing services to school children are also one important aspect of the maternal and child-health services of the 4,900 public health nurses whose salaries are paid wholly or in part from Federal funds administered by the Children's Bureau. School medical supervision including attention to nutritional status has also been strengthened and extended in the rural areas of many States by the use of Federal grants for maternal and child health.

The shift in emphasis in our nutrition work is illustrated by the titles and contents of two Children's Bureau publications by the same author, Dr. Lydia Roberts. The first, issued in 1919, was called "What Is Malnutrition?"; the second, dated 1942, is "The Road to Good Nutrition." Both take up the nutrition of the school child, but the more recent bulletin stresses that nutrition is a continuous process beginning in the prenatal period. Governmental agencies and citizens' groups, working side by side can do much even in wartime to keep children on the road to good nutrition that terminates in healthy adult life.

* * * * *

LOCAL HEALTH SERVICES AND WELL NOURISHED CHILDREN

MARJORIE M. HESELTINE

Consultant in Nutrition, Children's Bureau, U. S. Department of Labor

The local public health staff concerned with the betterment of the nutrition of school children may consist of a lone county public health nurse, who does well if she visits each school once a year. Or, at the other extreme, a corps of workers may be constantly available, including such specialists as pediatricians, children's dentists, psychiatrists, health educators, and nutritionists. Behind the local health workers, be they one or many, stands the State health agency equipped with supplementary resources in the shape of supplies, laboratory faciiities, consultation on technical and administrataive procedures, and financial aid. And back of the State health agency are the United States Public Health Service and the Children's Bureau of the U. S. Department of Labor, each charged by the Congress with specific responsibilities related to the health of the Nation's children.

Whether one or many local workers carry on school health services, the aims as far as nutrition is concerned are the same: To have as many children as possible in good nutritional condition when they enter school; to deal promptly and effectively with cases of malnutrition; to maintain good nutritional status throughout the school years, among both those children who have been salvaged from malnutrition and those who were in good condition when they started in school.

Children are more likely to be well nourished on entering school for the first time if they have been kept under continuous health supervision from the prenatal period on. In such supervision, which is the joint responsibility of family physicians, the health agency, and parents, the child's nutrition receives a great deal of attention. It is gratifying to see such tangible recognition of the mutual responsibility for promoting good nutrition as the series of folders on food needs at various ages that the Minnesota State Medical Association has made available to its members through cooperation with the Division of Child Hygiene of the State Department of Health of Minnesota. It is obviously up to individual fathers and mothers to take full advantage of whatever resources the community offers for continuous nutrition supervision, but organized groups of parents can do much to develop and publicize those resources. The National Congress of Parents and Teachers has been a potent force in bringing together private physicians, public health workers, and parents to put into effect measures for safe-guarding health and nutrition from the very beginning of the child's life.

In every part of the country there are some children for whom society must assume at least a part of the responsibility for good nutrition that normally rests with parents. In peace times these are the children living in institutions, in fosters homes, or in families that are economically unable to provide an adequate diet. In wartime, the number is augmented by the children for whom community care must be provided while their parents supply the extra manpower and womanpower needed on the industrial front. Local health workers rightly have a very special concern for the nutrition of children of all ages who eat in groups, whether in community child-care centers, at school, or in the dining rooms of child-caring institutions.

Once children enter school, the community looks to the health agency and the school department to work together with parents and children themselves, if need be to restore these young people

to good nutritional condition and, in all cases, to maintain good nutrition once it has been established. The school environment and the school program must foster the general good health that gives food a chance to nourish. Children who are chronically tired because they have to spend long hours traveling from home to school or because they are overburdened with homework and extra-curricular activities are not likely to be well-nourished. The best school lunch imaginable will not produce the maximum benefit if the food is bolted by youngsters in ten minutes between an arithmetic session and a noon-time baseball game.

In discussing their respective roles in the nutrition program for school children, it is often stated that the health agency is responsible for health services related to nutrition and the school for nutrition instruction. It is granted that only a physician can make a medical examination, and that only the teacher can fit nutrition neatly into the total program of classroom instruction. However, the teacher who observes the children day in and day out, and who is primed to recognize outward signs of suboptimal nutrition and to note poor food practices renders a distinct health service in calling these matters to the attention of the physician and nurse. Equally, the school physician who looks for indices of nutritional status in connection with a medical examination and who makes both the parent and the child feel that food is important for health is not only creating a receptive attitude for all the nutrition instruction of the school, but is an educator in his own right, making the application to the individual of the more general knowledge acquired by the group. So public health workers and teachers alike are engaged in nutrition services and nutrition education. The brunt of the school nutrition program falls on the local health officer or school physician, the public health nurse, and the classroom teacher. Because nutrition is only one aspect of health services and health education, these workers with many-sided responsibilities look for expert guidance to pediatricians, children's dentists, specialists in maternal and child-health nursing, health educators, nutritionists, and sanitation officers.

The school lunch is a school activity that combines both nutrition service and nutrition education. It is not surprising, then, that a school feeding program often paves the way for combined efforts along many fronts by all those workers that society charges with special responsibility for the health and welfare of school-age children.

* * * * *

NUTRITION IN THE PROGRAM OF THE U. S. OFFICE OF EDUCATION

J. W. STUDEBAKER
U. S. Commissioner of Education, Washington, D. C.

The purposes of the present program of the U. S. Office of Education in nutrition education are two-fold:

1. To assist schools in carrying on a long-time program in nutrition education in which children of all ages are helped to establish nutritionally sound food practices.
2. To help individuals and families served by the school to adjust their food practices in a way to get a nutritionally adequate diet within the limitations of the foods available during the war period.

The U. S. Office of Education has long been interested in the first of these objectives. For example, in 1909 it published a bulletin on "The Daily Meals of School Children"; in 1914 one on "Physical Growth and School Progress"; and in 1921, one on "Malnutrition and School Feeding." Over the years it has worked with State departments of education in emphasizing practical programs of nutrition education, based on the needs in different communities and different grade levels.

The promotion of school lunch programs has received special attention. The school lunch provides a unique opportunity for helping children secure an adequate noon meal and for getting practical experience in nutrition education.

Since the war began, the U. S. Office of Education has made special effort to unite the forces of various divisions and departments concerned with assisting schools in helping children, youth, and adults meet their nutrition problems. Thus, divisions working together have made possible a continuously expanding program of nutrition education service to schools.

* * * * *

NUTRITION EDUCATION THROUGH THE SCHOOLS

EDNA P. AMIDON
Chief of the Home Economics Education Service,
Chairman of the Office of Education Nutrition Committee,
U. S. Office of Education, Washington, D. C.

If the inquiries coming to the U. S. Office of Education are indicative of interest in the expanded nutrition education pro-

grams, then during these war years there has been a tremendous increase in emphasis on nutrition in the schools. State departments of education have stimulated this interest and have offered practical help. In State, district, and county teachers' conferences, in summer schools, and in special workshops attention has been given to ways of extending and increasing the effectiveness of nutrition instruction. In some schools, and in some areas within States, home economics teachers have been designated and time allowed in their schedule to serve as consultants in nutrition to elementary teachers. In secondary schools, there has been joint planning by school leaders in various school departments in order that the instruction of each department make its unique contribution to the school's total nutrition program and to be sure that a broad program of instruction is provided—one that includes study of problems connected with the selection, production, distribution, conservation, buying, and preparation of food.

Special courses have been developed to meet new needs. For example, in Philadelphia a course was organized for malnourished seventh and eighth grade boys and girls; in Elmira special classes in meal preparation were provided for fourth, fifth, and sixth grade girls, who were preparing the evening meal because both parents were employed.

During the school year 1942-43 under the Rural War Production Training Program, 21,000 courses in production, conservation, and preservation of food for farm families were offered. In these courses, considerable emphasis was given to planning the production of food to provide for adequate nutrition of the family the year around. Plans now under way for 1943-44 show that increased emphasis will be given to the nutritional aspects of this program.

School personnel have worked closely with community nutrition committees at local, county, and State levels. This has been done in order that the school's program of nutrition education might be related to the local food situation and to the nutrition programs of other agencies and organizations.

To help meet the many requests coming from schools and State departments of education, specialists in the Office of Education from eight fields of educational work organized in 1941 a nutrition committee. This committee coordinates the nutrition and school lunch activities within the Office of Education and works with representatives of State departments of education and local people. Under its direction, materials are prepared for adminis-

trators and teachers which suggest practical learning experiences leading to the improved nutrition of school children.

Early in 1942, the Office of Education Nutrition Committee outlined a number of essential characteristics of a school's nutrition program. They are:

1. Education in foods and nutrition made available to all groups served by the school, of a type appropriate to the age of the groups served and for achieving food practices necessary for optimum health.

   It includes the promotion and development of a school lunch program as a part of the total educational program.
2. Participation by school officials in organized efforts to improve nutrition in the community.
3. Special education in congested defense areas:—
   a. To provide education in nutrition for industrial workers;
   b. To offer special training programs for boarding-house keepers;
   c. To provide special food and nutrition education for wives of industrial and other workers.
4. A teacher-education program, on both preservice and inservice levels, to prepare teachers for the solution not only of their own nutrition and food problems, but also to participate effectively in joint school and community efforts to help bring about better nutrition among youths and adults in the community.

Office of Education activities, directed toward helping the schools translate these characteristics into operating programs, are varied:

1. Assistance is given, through personal consultation and correspondence by qualified members of the staff in developing school programs to meet present-day nutrition and lunch problems.
2. Assistance is given with demonstration projects such as child health and nutrition workshops.
3. Institutions are stimulated to make studies and carry on research in nutrition education.
4. Working conferences are held to consider special problems and total State school programs of nutrition education. The Office also cooperates with other agencies in sponsoring and conducting regional meetings dealing with problems related to nutrition such as food production and conservation.
5. Information Exchange packets containing teaching materials in the field of nutrition are circulated.

6. Through announcements and articles in *Education for Victory,* the official bi-weekly publication of the U. S. Office of Education, over 60,000 school people (a) are given descriptions of programs and practices in different States and schools; (b) are kept informed concerning changes in laws and Government regulations and policies affecting school lunch programs; and (c) receive notice of new publications of special interest to workers in nutrition and school lunch programs.
7. The Office of Education sometimes acts as a clearing house in the distribution to schools of publications issued by other Government agencies.
8. Assistance is given through such publications as: *Nutrition Education Through the Schools, Nutrition Education in the Elementary School, Making School Lunches Educational,* and in *Physical Fitness Through Health Education,* a chapter on Better Nutrition.

Under the auspices of the U. S. Office of Education an interagency committee, known as the Cooperating Committee on School Lunches, was organized in 1941. This committee tries to find ways and means of making school lunch programs yield the greatest results possible, educationally and nutritionally, to all agencies which can offer to the States, and through them to the local schools, some type of help with the school lunch — advisers, equipment, food, space, supplies, and workers. Four bulletins and numerous releases have been prepared under the direction of this committee.

The school is playing an important part in the national nutrition program. State and county departments of education have used their resources in working with schools to make their nutrition instruction practical and related to the current local and national food situation. Through these efforts, nutrition education is becoming an integral part of the school program throughout the Nation.

* * * * *

DISTRIBUTION OF FOOD FOR GOOD NUTRITION

NORMAN LEON GOLD

Chief, Civilian Food Requirements Branch Office of Distribution, War Food Administration

Feeding America—civilian and armed forces—as well as helping to feed the Allies is more than a problem of meeting production goals or even exceeding them. Processing food—putting it in the

best form for consumption—and distributing food are equally pressing responsibilities. A sound distribution system reduces waste and secures more effective food use, thereby increasing our food supply and improviing the nutritional well-being of our people.

In addition to making sure that all people receive the greatest potential value from all food produced, provision must be made to meet th special needs of certain groups in the population—children, industrial workers, and invalids. For many years, the Department of Agriculture has helped to meet the nutritive needs of children by providing food for school lunches, first by direct distribution and now, through a local purchase program administered by the War Food Administration. During the war and post-war periods, it is essential that distribution plans further the proper nutrition of children.

* * * * *

FEDERAL AID FOR SCHOOL LUNCHES

MARGARET M. MORRIS
School Lunch and Food Preservation Division, Civilian Food Requirements Branch, Office of Distribution, War Food Administration

As part of its wartime food program, the War Food Administration is helping to provide food for community school lunches. By Congressional authority, 50 million dollars was made available to supplement local funds so that this year approximately six million children could be assured of a noon meal at school. While Federal funds finance a substantial part of the program, school lunch projects are basically community undertakings which depend upon local initiative.

Since 1935, the U. S. Department of Agriculture has assisted school lunch programs by purchasing and distributing foods to schools through State Welfare Departments. In January of 1943 the new plan was initiated whereby sponsors do the buying locally, primarily to simplify the program and to conserve transportation and storage facilities that are necessary in a centralized distribution plan. Sponsors who enter into agreements with WFA are reimbursed monthly according to the type of lunch served and the number of children participating.

The types of lunches are based on the nutritive needs of growing children. The Type A, or complete, lunch is intended to provide one-third to one-half of the child's daily food requirements, in ac-

cordance with standards determined by nutrition specialists and consists of, at least:

(1) One-half pint of fresh whole milk as a beverage.
(2) Two-ounce serving of meat or fish, *or* 1 egg, *or* 2 ounces of cheese, *or* ½ cup (cooked measure) of dry peas, beans or soybeans, *or* 4 tablespoons of peanut butter.
(3) One cup of vegetables or fruit, or ½ cup of each.
(4) One or more slices of bread, *or* muffins *or* other hot bread, made of whole-grain or enriched flour or cereal.
(5) Two teaspoons of butter, or margarine with added vitamin A.

Because it is recognized that at first some schools may not be able to meet the requirements of the Type A lunch, reimbursement is also made for a less adequate meal, known as Type B. This lunch includes one-half pint of milk, one-half as much of the protein-rich dish, one-half as much of the vegetable or fruit, the same amount of bread, and half as much of the Vitamin A rich fat.

Reimbursement is also made for milk alone if that is the only type of assistance desired. The Type C, one-half pint of fresh whole milk served as a beverage, takes the place of the former "penny milk" program.

The sponsor submits claims for the purchase of those foods which appear on the WFA official list of school lunch foods. This list includes a wide variety of food such as milk, meat, eggs, butter, vegetables, fruit, bread and cereals. The sponsor is urged to buy foods which are generally in good supply and locally abundant. A claim may be made for as much as 9 cents for every Type A meal served, provided the sponsor has spent that much for food; 7 cents is allowed if milk is not included. For the Type B meal, a maximum of 6 cents is paid; without milk, 4 cents. For the Type C, milk only, the maximum reimbursement is 2 cents.

When the sponsor enters into an agreement with WFA he certifies that the lunch will be offered to all children in the school without discrimination in any manner. Children who cannot afford the cost of the meal must be served at a reduced rate or without charge. Certification is made that Federal funds are necessary to carry on an adequate lunch program and that all funds accruing from its operation will be used only in the maintenance of the program, for improving the quality of the meals, or for serving lunch to more children at a reduced price.

The sponsor who enters into an agreement with WFA is required to keep records of the number of children served, indicating

the number of meals served free or at less than the prevailing rate. A file of the invoices of the foods purchased for which reimbursement is claimed must be kept and an inventory must be maintained. The sponsor permits a WFA representative to examine these records periodically.

Sponsors of school lunch programs include school authorities and parent-teacher organizations. In many communities civic and service groups lend assistance in the form of equipment, funds and volunteer labor.

To be successful, a school lunch program needs the combined efforts of many people, within the school and community. For example, the home economics teacher may give direction in the planning and preparation of the food, while the classroom teacher helps the children to learn what foods they should eat to be well-nourished. The county health officer may interpret laws and ordinances affecting sanitation in food service, and help school lunch programs to meet the requirements so that hazards to health will be reduced to a minimum. Parent-teacher groups can help by finding out what Federal, State and local funds are available for providing food, equipment and labor for school lunch programs.

* * * * *

EXTENSION SERVICE EMPHASIZES NUTRITION

M. L. WILSON
Director of Extension Work, War Food Administration, U. S. Department of Agriculture

When the Cooperative Extension Service in Agriculture and Home Economics was created in 1914, a group of workers was set up in States and counties, who were concerned with the economic welfare, the living standards, and the physical and social well-being of farm families. They worked with farmers, with 4-H clubs of farm boys and girls, and with community groups and county councils of rural homemakers.

The proper feeding of the family has always been a fundamental part of the extension program. Emphasis has been placed on production, conservation, preservation, and efficient utilization of food. For many years county home demonstration agents, guided by the State Extension Service nutrition specialists, have cooperated with teachers and school officials in the promotion and support of lunch programs in rural schools. They have helped to plan and equip school kitchens, and to assist in making the school

lunch a vital teaching medium. Many States organized 4-H Hot Lunch Clubs in small district schools, where the club members planned, prepared, and served a daily hot dish and kept accounts.

The contribution of extension workers in different localities differs as the situation demands. Contact with community and county wide organizations of homemakers gives the county home demonstration agent an unusual opportunity to contribute to the development of community nutrition programs.

Since the President's National Conference on Nutrition, held in May 1941, nutrition committees have been set up in all States and in most of the counties of the United States. County home demonstration agents are active members of county nutrition committees. Both as extension agents and as members of these committees, they have an important responsibility in the development of cooperative nutrition programs designed to help improve the health status of community groups.

* * * * *

HOW THE EXTENSION SERVICE FORWARDS CHILD NUTRITION

MIRIAM BIRDSEYE
Nutritionist, Extension Service, U. S. Department of Agriculture

Teachers in most rural and consolidated schools know their State Extension Services through bulletins and leaflets on a wide variety of subjects written by State Extension specialists in agriculture or home economics. These publications, prepared to carry forward the Extension program, also help to round out the reference material of the school library or the individual teacher.

Since Pearl Harbor, when the Extension Service and other rural educational agencies have been adjusting their programs to help meet war food production goals and roll up a huge total of victory gardens and home preserved foods, publications on basic food groups, daily food needs, the planned victory garden, how to work out individual and family food preservation budgets, how to plan the yearly farm food supply, directions for canning, freezing, dehydrating, and brining food and for improving storage facilities are especially helpful to vocational and other rural teachers. So are publications on meal planning, packed lunches, hot school lunches, food preparation methods which conserve natural food values, the prevention of food waste and the use of alternate foods under rationing. These publications may be obtained from the Ex-

tension Service and the State agricultural college or from the home demonstration agent or the county agricultural agent at the county seat:

Many school people know these agents who represent the Extension Service in the county. In some few States there are also county 4-H Club agents. Sometimes the school superintendent provides a meeting place for the county home demonstration council or for a training school for local leaders selected from the home demonstration clubs of farm and rural women with whom the agent works.

The programs of the home demonstration clubs influence more or less directly the nutrition and health of children of school age, since they concern family relationships, the feeding of children and grownups, building up the family food supply, planning and preparing meals, and similar topics. The Extension program has opened their eyes to the signs of poor as well as good nutrition in children. With the approval of school and health officials, home demonstration clubs were the first community groups to sponsor and assist with nutrition classes for under-nourished school children, to provide food for school lunches and to help to serve them. They were the first to can foods for school lunches and to use a school lunch canning budget. They have sponsored and assisted with well-child conferences and health roundups for pre-school children, and have arranged for health examinations and needed corrections for children. "Better Baby Clubs" and similar projects emphasizing proper feeding of expectant mothers, infants and preschool children, have produced youngsters actually taller, better developed, with better teeth and fewer ailments than their brothers and sisters at the same age.

The 4-H Clubs offer another opportunity for stimulating cooperation between the Extension Service and schools for rural boys and girls. Teachers can help these young people to see the benefits of enrolling in such clubs, most of which are carried on outside of school hours. When, as in some States, the clubs are given school time for their meetings, teachers sometimes act as club leaders or sponsors.

Especial emphasis is currently being placed on 4-H Club projects which prepare members to raise or help to raise a definite part of the family food supply, to can, freeze, or dehydrate a substantial part of the family food preservation budget, to plan and prepare meals, or to pack lunches for themselves or for older members of the family.

In living up to the club insignia, whose four H's stand for "head, heart, hand, and health," 4-H Club boys and girls work to improve food and health habits by checking them periodically against a 4-H food and health habits guide. They also work for good posture. Many clubs have physical check-ups and health improvement contests.

To bring about more far-reaching and effective service, especially along the line of war food and nutrition goals, the Extension Service, the Office of Production, and the Office of Distribution, of the War Food Administration, the Farm Security Administration, the U. S. Office of Education, and other agencies and groups are working together through coordinating and planning committees at Federal, State and county levels. In plain English, these agencies form the nucleus of State and county nutrition committees which plan for pulling together instead of pulling separately.

In this way, many States have planned for cooperative State, district and county institutes or refresher meetings on food preservation methods and plans. Extension specialists and experiment station workers have presented most of the subject matter in State and district training meetings of this sort. Last year the home demonstration agent was often asked to advise with home economics teachers who set up community canning centers in their school buildings. In counties where community freezer lockers are established, county extension agents work with locker managers and patrons to see that they understand the importance of the various steps that lead to high quality products, all the way from choosing suitable varieties to using proper packages and maintaining proper freezing and storage temperatures. Last year vocational teachers and extension workers in many States worked together on home dehydration devices and methods.

These are some of the many ways in which the program of the Extension Service directly or indirectly touches or affects the programs of the schools for bettering the nutrition of rural children.

* * * * *

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EDITORIALS

Credit to Whom Credit Is Due,—This Special Nutrition Number of the Journal of School Health, an issue of many more than usual copies, has been made possible only through the interest, energy, and efforts of Walter Wilkins, M.D., a member of the Governing Council of the American School Health Association, Chairman of the Committee on Nutrition and at present serving with the U. S. Public Health Service. Dr. Wilkins merits the thanks and appreciation of all interested in efforts designed to better the health of children. — C. H. K.

* * * * *

Let's Get Together,—There are many aspects to the general nutrition problem. It involves such considerations as production, distribution, preservation, as well as such factors as social customs, racial habits, individual preferences, economic status, geographical distribution, education, etc. Supply and demand for different foodstuffs vary from time to time.

It is obvious that such a problem must be attacked from various angles. Actually, this has been and is being done by various agencies, organizations, and institutions.

As government has gradually become more complex, with more and more specialization and separation of services, there has resulted a narrowing of interests and objectives. At times, this has caused us to lose sight of some of the larger objectives that different groups often have in common. To compensate for this, or rather to turn it to advantage, within recent years there has

emerged the concept and practice of "coordination" of certain of the activities of different groups, on a voluntary basis, for the common good. This has proved workable on Federal, State, county, city, and community bases.

Nutrition is a field which is so broad and so interwoven with every phase of modern life, that no single approach can—by itself—prove effective. In fact, the very nature of the nutrition problem demands several separate but coordinated lines of attack. — Walter Wilkins.

* * * * *

The Nutrition Program Succeeds,—Steadily, year after year and generation after generation, the health and stature of our people has improved. We are shocked at the figures showing the large percentage of our young men who are rejected by the armed service because of physical defects. Some maintain that our physical condition now is worse than in 1917 and 1918. Statistically, this seems to be true, but the screen by means of which we separate the chaff of the physically handicapped from the wheat of the accepted is much finer than the one used in 1917 and 1918. This is particularly true regarding the mental cases and the tuberculous. If the same physical standards had been the screen in 1775-1783 how many men would Washington have had?

Practically all health workers are familiar with the rising medium age at death. An increase of nearly 20 years in this age in a half century or less does not, to this writer, indicate a deteriorating people.

Less well known is the fact that in the same families—when we have the figures on enough of them to give some statistical accuracy—from generation to generation the individuals are heavier and taller than were their parents and grandparents. This is true both of men and of women. It holds true not only of well to do families from which several generations have attended the same Colleges and Universities, but studies made in institutions filled largely with persons coming from underprivileged environment, over a fifty period, indicate that these persons also have increased in weight and height.

While we do not—like Dr. Coué preach the doctrines that we can lift ourselves by the bootshaps, and that "In every way, everyday, we are getting better and better," we do maintain that over the decades, this country's schools, environment and food—and all these factors enter the nutrition program—have produced and are producing a bigger, stronger, and a more robust people. — C. H. K.

* * * * *

PRODUCTIVE SOIL, THE SOURCE OF OUR FOOD SUPPLY

By DR. H. H. BENNETT
Chief, Soil Conservation Service

Productive soil is the source of food. This simple truth is too often taken for granted.

Any significant decline in the supply of available productive land endangers our food supply. Today, as a result of extensive soil erosion and hard land usage, there are throughout the world only about four billion acres of available cultivable land that we can depend on to supply the food needs of two billion people. And much of this world supply of usable land is not of very good quality. A great deal of it ranges from poor to medium-good. If erosion is not brought under control, and better use made of land, already dangerously near the scarcity level, the prospect is that there will not be enough food to supply even the minimum nutritional requirements of the human family. Even before this war started, millions were undernourished in many parts of the world; and famine was of frequent occurrence.

Another vital point—less certain but equally challenging—is the effect of soil quality on crop quality. A current thesis, now gaining the support of many soil scientists and nutritionists, suggests that deterioration in soil fertility—as from erosion and overcropping—may very possibly reduce the nutritional value of food crops grown on such depleted land. Plants can draw from the soil in which they grow only those elements available in the soil itself. Soils deficient in available essential elements, such as phosphorus, calcium, copper, boron, and probably other elements are not likely to provide a suitable environment for growth of the mineral-supplying foods which human beings need to build strong bones, muscles, and nerves.

Erosion undermines soil health by bodily removing productive soil and thereby simultaneously disposing of available plant nutrients of the land. What are the ultimate harmful effects on human health, when food crops are grown on eroded or exhausted land—that is, on land where essential major and minor minerals may be entirely absent or in such form as to be unavailable to plants? While these aspects of the nutritional problem have been explored frequently in the case of animals and plants, there is great need for research in this field with respect to human beings.

Meanwhile, it is highly important that we use the preventive medicine we have to the greatest degree. Soil conservation protects both the quantity and quality of productive soil by reducing erosion

and improving the existing degree of soil frtility. Soil conservation measures hold the mineral-rich topsoil in place, result in greater yields of crops (20% higher production per acre as an average in the United States) and frequently improve crop quality. Surely, a unified, constructive program of "better soil, better crops, better health" would be working toward a goal worthy of the combined efforts of nutritionists, agriculturalists, physicians, and educators.

* * * * *

SOIL EROSION AND THE FOOD WE EAT

By AUSTIN L. PATRICK

Regional Conservator for the U. S. Soil Conservation Service in the Northeastern United States, formerly Professor of Soils at Penn State, and Past President of the American Soil Survey Association

There are signs that our humble servant, the soil, is coming into its own. Heretofore, most people studying nutrition have asked few questions about the conditions under which food was produced other than to inquire whether they were sanitary and whether the food lost any of its natural value in processing. Now, in the light of our rapidly growing knowledge of how soil deficiencies affect animal nutrition and plant physiology, voices are being raised to ask if the rapid depletion of our soils by erosion does not warrant closer attention from those concerned with our diet and improving our health as a nation and as individuals.

The investigation of malnutrition in plants, animals and human beings might be called the science of hidden hunger. Like the hidden hunger in humans, which manifests itself in intricate and complicated ways, the hidden hunger in plants bears no simple correlation to soil deficiencies. The metabolism of plants is complicated, too. Yet the plant physiologists know that mineral deficiencies in the soil will produce certain symptoms of sickness in plants and consequently that any factor, like erosion, which often produces such soil deficiencies, can be a cause of plant sickness. To alleviate these soil and plant deficiencies, they aften prescribe a dose of the missing plant food element. However, in the light of what soil scientists have found out about erosion, it would be far better in many cases if they could prescribe, in addition, a system of land management which would prevent soil depletion and erosion and provide the least interference possible with the course of what might be called normal soil anabolism.

Like plants and animals, the soil is a living thing, not just a

NUTRITIONAL ANEMIA IN INFANTS

REASONS FOR EARLY FEEDING OF PABLUM (OR PABENA)

1. The infant's initial store of iron is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem[2]). About 30% of the iron freed from the hemoglobin during the first two months is lost, and while hemoglobin destruction takes place, all infants are in negative iron balance. (Jeans,[3] and Usher, et al.[4]).

2. During the early months of life the infant obtains very little iron from milk — 1.44 mg. per day from the average bottle formula of 20 ounces or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt,[5] Jeans[3]). The incidence of nutritional anemia has been found to be high among infants confined largely to a diet of cow's milk. (Davidson, et al.,[6] Usher, et al.,[4] Mackay[1]).

For these reasons and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Strauss,[7] and Gottlieb and Strean[8]), the pediatric trend is constantly toward the addition of iron-containing foods at an early age, both to normal infants and those with pylorospasm. (Neff,[9] Blatt,[10] Brennemann,[11] Monypenny[12]).

THE CHOICE OF THE IRON-CONTAINING FOOD

1. Many foods high in iron actually add very little to the diet because much of the mineral is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 Gm. (Bridges[13]).

2. To be effective, food iron should be soluble. Some foods fairly high in total iron are low in soluble iron. Thus egg yolk and liver have less soluble iron than does farina, which is very low in total iron. (Summerfeldt[14]). Oxalate-containing leafy vegetables are low in soluble iron and appear not to be well utilized as a source of iron by infants. (Kohler, et al.,[15] and Stearns[16]).

3. **Pablum (and Pabena) are high both in total iron (30 mg. per 100 Gm.) and soluble iron (7.8 mg. per 100 Gm.) and can be fed in significant amounts at an early age, without digestive upsets. (Blatt,[10] Monypenny[12]). Clinical studies of sick and well babies have shown Pablum to be of value in raising hemoglobin values (Crimm, et al.,[17] Summerfeldt and Ross[18]), even when egg yolk and spinach were not effective (Stearns[16]).**

Pablum, a palatable mixed cereal food, vitamin and mineral enriched, and cooked thoroughly and dried, consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, powdered beef bone, sodium chloride, alfalfa leaf, brewers' yeast, and reduced iron. (The oatmeal form of Pablum is called Pabena.)

[1-18]Bibliography on request.

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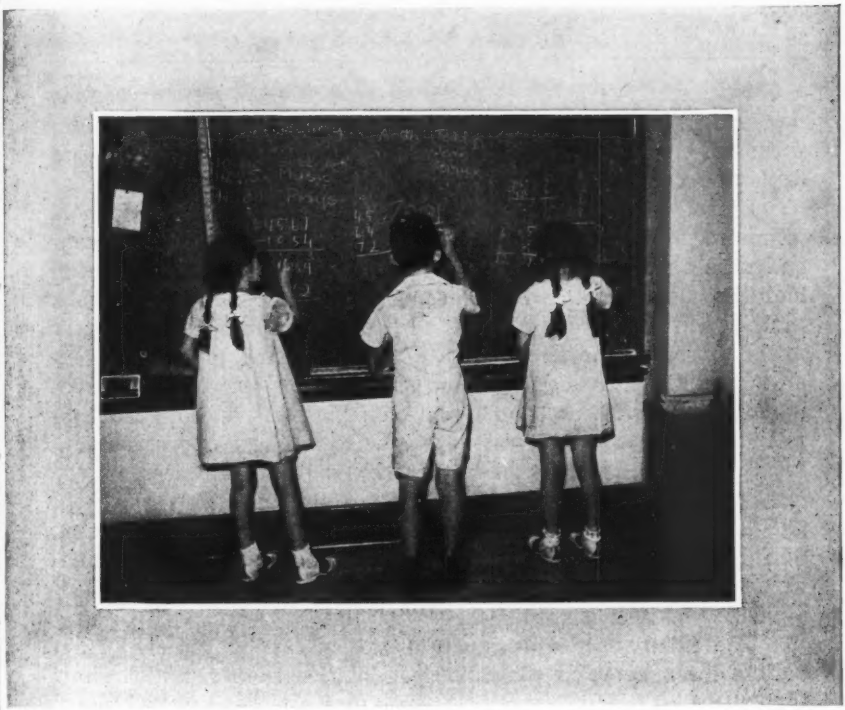
collection of inert material. Ordinarily, the part of it where biologic activity is most hightly concentrated is the topsoil. Millions of microscopic flora and fauna exist in each gram of the top few inches of the soil, where temperature and moisture conditions are favorable to their growth and where the presence of organic matter and minerals makes it possible for them to live. The interaction of this biologic population on the mineral and organic matter with which they are in contact largely makes the soil a fit medium for plant growth. That is why erosion is so serious, because, by its very nature and definition as the accelerated washing away of the land surface, it is destructive of the topsoil.

Some indication of the damage to topsoil quality caused by erosion can be gathered from tests made by Messrs. Wilson and Schubert at the Arnot soil conservation experiment station near Ithaca, New York, on soils typical of large sections of farmland in that State. They found that the total number of microflora in each gram of silt washed from outdoor test plots during a rain averaged 200 times greater than the number per gram in the soil remaining on the plots. In one case, the micro-flora in the soil of a plot numbered nine million per gram. After a 1.04 inch rain had occurred, the silt washed into a settling tank at the bottom of the same plot was checked and the micro-flora found to number eleven billion to the gram. That is a concentration almost 1400 times as great in the washed off material as was in the original soil.

Further proof that farmland erosion is a selective process, removing the best part of the soil, is found in such experiments as those of Dr. O. R. Neal and his associates at the Marlboro, N. J., soil conservation experiment station.

Their experiments showed that the *finer* particles of soil are washed away by erosion. What is more, the soil material removed from their test plots by erosion contained 4.7 times as much organic matter, five times as much nitrogen, three times as much phosphorus (in a form available to plants) and five times as much available potassium, as the original soil on the plots.

Nitrogen losses from erosion in these tests were somewhat less than the nitrogen taken from the soil by the crops grown on the plots. The losses of phosphorus and potassium from erosion in some cases equalled and in other cases greatly exceeded those resulting from crop removal. All told, erosion and crops together removed more plant nutrients than a farmer in this section could hope to replace by fertilizer or other means. Crop yields, too, suffered as a result of erosion, but one of the most significant points about these particular tests was that the erosion which occurred



LET US HELP!

EVERY SURVEY reported in the last decade has revealed widespread consumption of diets below recommended standards and a high incidence of deficiency states throughout the nation.[1] The findings apply to children as well as to adults and extend into every social and economic strata of the population.

For example, a Chicago survey showed that the diet patterns of 72 per cent of 7,363 children failed to meet a standard lower than that recommended by the National Research Council. Among 293 private-school pupils in New York City, the percentages of pupils having less than recommended amounts of the several vitamins were: 65 for vitamin A; 53 for vitamin B_1; 70 for riboflavin, and 58 for vitamin C. The preventive aspects of the problem calls for teaching a better selection of foods. On the corrective side, supplementation and therapeutic treatment is needed.

School physicians and public health officials are invited to consider the wide adaptability of various Squibb Vitamin Products in correcting deficiency states. Among the Squibb products of interest are:

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[1] Bulletin 109, National Research Council, November 1943.

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was comparatively mild. Soil losses ranged from one to six tons per acre. When it is understood that soil losses from erosion on farmland often are much greater than this, some extent of the soil depletion caused by erosion can be gathered.

Bartel, of the North Carolina Agricultural Experiment Station, estimates that erosion removes 50 to 60 times more potassium a year on North Carolina farms than is removed by crops. E. A. Carleton highlighted this trend when he reported experiments in New York State recently where as much as a third of the total organic matter in the topsoil was lost in six years under a system of soil management that failed to check erosion. Dr. John Lamb, reporting from the Marcellus, N. Y., soil conservation experiment station, lists topsoil losses as great as 242 tons per acre, in one cropping season, from one of the most fertile soils in the State. This represents the removal of approximately an inch and a half of surface soil with all of its mineral and organic content and its biologic population. Such losses are in direct contrast with the slow rate of soil formation. It is estimated that ordinarily the building of an inch of soil by natural processes requires from 400 to 1000 years.

The extent of soil losses from erosion can be gathered from nationwide surveys of the Soil Conservation Service which show that about 50 million acres of former cropland have already been ruined for any further immediate cultivation. Another 50 million acres, approximately, have been reduced to a condition almost as bad, and half or more of the productive topsoil has been removed from still another 100 million acres of cropland. Roughly, there are about 400 million acres of land immediately available for crops throughout the country, of which only about 60 million acres are not subject to damage from erosion.

Minimum estimates of the amount of soil washed into streams and rivers every year put the figure at 1½ billion tons of solid matter annually. On the basis of the average compositions of the soils of the country computed from chemical analysis of 389 samples of surface soil collected by the Bureau of Soils (1.55 per cent potash, 0.15 per cent phosphoric acid, 0.10 per cent nitrogen, 1.56 per cent lime, and 0.84 per cent magnesia) the amount of plant nutrients in this minimum estimate of soil wastage by erosion totals about 126 billion pounds of plant nutrients. Not all of these wasted plant nutrients are immediately available to crops, of course, but nevertheless they come principally from the topsoil layer. Farmers, as a whole, obviously will never be able to meet this drain on their soil resources by the use of fertilizer and ordinary cropping methods alone.

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Because of this widespread damage from erosion, the original fertility of the majority of the cultivated soils of the United States has declined materially during the time they have been cultivated. For example, average corn yields have not increased at the rate one might have expected in the past 100 years, despite the constant retirement of poor land, the shift to more fertile soils, the adoption of improved farming technique, improved varieties of crops, and the use of modern machinery. Furthermore, surveys and experiments point out that a steady decline in soil productivity is continuing.

Unless American farmers, as individuals, adopt the idea that they are stewards of the soil they till and therefore individually responsible for its care and well-being, the United States will become a soil-deficient nation in the lifetime of many people now living. We need to find out more about the complicated tie-up between soil, plants and humans before the relationship between soil and human nutrition is fully understood, but unless and until the menace of erosion is checked, physicians, chemists and others interested in public health would do well to consider carefully the prospects of a diet based on foods grown in deficient soils.

* * * * *

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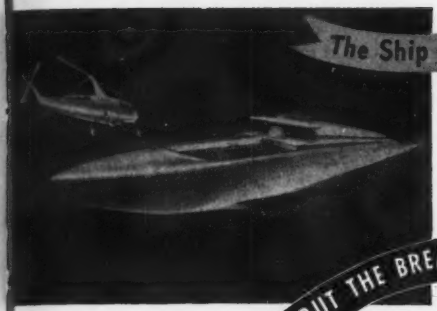

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Sources of Nutrition Material

1. Children's Bureau*—U. S. Department of Labor, Washington 25, D. C.
   Food for Young Children in Group Care—Pub. 285, 1942.
   The Road to Good Nutrition—Pub. 270, 1942.
   Your Child's Sleep—Folder 11, 1940.
   Well Nourished Children—Fold 14, 1939.
   The Healthy Well-Nourished Child, 6 to 16 years—Folder 18, 1940.
   Your School Child's Health—Folder 22, 1940.

2. U. S. Office of Education*—Federal Security Administration, Washington 25, D. C.
   Nutrition Education in the Elementary School—
      Nutrition Education Series pamphlet 1, 1943.
   Making School Lunches Educational (in press)—
      Nutrition Education Series pamphlet 2, 1944.
   School Lunch Management (in press)—
      Nutrition Education Series pamphlet 3, 1944.
   Physical Fitness Through Health Education—
      Victory Corps Series pamphlet 3, Chapter 3.
   Education for Victory (current issue)—

3. U. S. Public Health Service*—Bethesda 14, Maryland
   From Hand to Mouth—Community Health Series 3, 1943.
   A Blueprint for the Conquest of Hunger—by Thomas Parran, Surgeon General, U. S. P. H. S., reprinted from the Public Health Reports, Vol. 58, No. 24, June 11, 1943.
   The Role of the Health Department in the National Nutrition Program—by W. H. Sebrell and Walter Wilkins reprinted from Public Health Reports, Vol. 58, No. 21 May 21, 1943.

   *Single copies available free from the agency. For additional copies write for price list to the Superintendent of Documents, Government Printing Office, Washington, D. C.

4. War Food Administration
   Lunch at School—Folder NFC 9, 1943.
   Menu Planning Guide for School Lunches—Pamphlet NFC 10, 1943.
   Handbook for Workers in School Lunch Programs—Pamphlet NFC 3.
   School Lunch Recipes, U.S.D.A. misc. pub. 537.
   Hunger Quits School—Pamphlet AWI 25.
   National Wartime Nutrition Guide—Folder NFC 4.
   Basic 7 Food Chart—Poster No. 0.525965, 1943.

   These materials available from Regional offices of Office of Distribution, War Food Administration. Addresses of Regional offices: Office of Distribution, 150 Broadway, New York 7, New York; Office of Distribution, Western Union Building, Marietta and Forsyth Streets, Atlanta 3, Georgia; Office of Distribution, 5 South Wabash Avenue, Chicago 3, Illinois; Office of Distribution, 425 Wilson Building, Dallas 1, Texas; Office of Distribution, 821 Market Street, San Francisco, California.

5. More Food Through Conservation Farming—U.S.D.A. Farmers' Bulletin 1909.
   Single copies of this Bulletin may be obtained free from the nearest of the following Soil Conservation Service Regional Offices: Soil Conservation Service, Center Building, 6800-16 Market Street, Upper Darby, Pennsylvania; Soil Conservation Service, Montgomery Building, 199 North Church Street, Spartanburg, South Carolina; Soil Conservation Service, 809 North Broadway, Milwaukee 2, Wisconsin; Soil Conservation Service, 3500 Cleburne Road, Fort Worth 1, Texas; Soil Conservation Service, Atlas Building, 900 North 16th Street, Lincoln 1, Nebraska; Soil Conservation Service, 218-20 North Second Street, Albuquerque, New Mexico; Soil Conservation Service, Pacific Building, 520 Southwest Yamhill Street, Portland 7, Oregon.

6. List of Publications by the Food and Nutrition Board, 2100 Constitution Ave., Washington 25, D.C., and its Committees which are available for general distribution.

Number 110—The Food and Nutrition of Industrial Workers in Wartime—1st Report of the Committee on Nutrition in Industry—April, 1942, 17 pp.

Number 114—The Nation's Protein Supply—Report of the Food and Nutrition Board—August, 1942, 10 pp.

Number 115—Recommended Dietary Allowances—Food and Nutrition Board—January, 1943, 6 pp.

Number 118—A Report on Margarine—Report of the Food and Nutrition Board—August, 1943, 20 pp.

Number 109—Inadequate Diets and Nutritional Deficiencies in the United States—Their Prevalence and Significance—Bulletin of the National Research Council—Report of the Committee on the Diagnosis and Pathology of Nutritional Deficiencies—November, 1943, 56 pp.

Numbers 110, 114, 115, and 118 (from the Reprint and Circular Series) are available in single copies free upon request. Prices on quantity orders may be obtained on request.

Number 109 (from the Bulletin series) is available for fifty (50c) cents per copy. Quantity orders are filled at the same price, less 20% discount on orders for more than ten (10) copies.